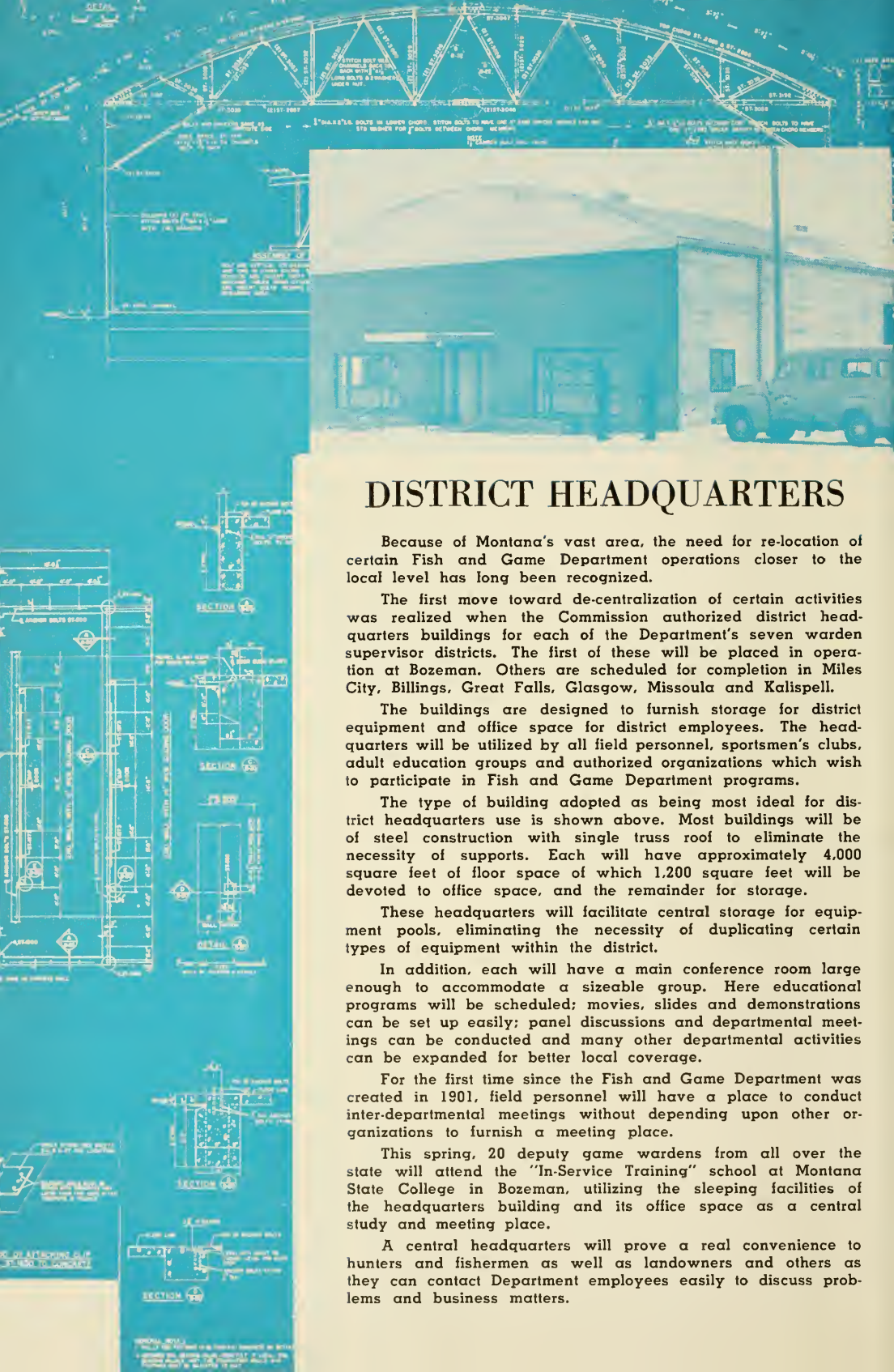


MONTANA

Wildlife

VOL. V No. 1 Montana Fish and Game Department Official Publication





DISTRICT HEADQUARTERS

Because of Montana's vast area, the need for re-location of certain Fish and Game Department operations closer to the local level has long been recognized.

The first move toward de-centralization of certain activities was realized when the Commission authorized district headquarters buildings for each of the Department's seven warden supervisor districts. The first of these will be placed in operation at Bozeman. Others are scheduled for completion in Miles City, Billings, Great Falls, Glasgow, Missoula and Kalispell.

The buildings are designed to furnish storage for district equipment and office space for district employees. The headquarters will be utilized by all field personnel, sportsmen's clubs, adult education groups and authorized organizations which wish to participate in Fish and Game Department programs.

The type of building adopted as being most ideal for district headquarters use is shown above. Most buildings will be of steel construction with single truss roof to eliminate the necessity of supports. Each will have approximately 4,000 square feet of floor space of which 1,200 square feet will be devoted to office space, and the remainder for storage.

These headquarters will facilitate central storage for equipment pools, eliminating the necessity of duplicating certain types of equipment within the district.

In addition, each will have a main conference room large enough to accommodate a sizeable group. Here educational programs will be scheduled; movies, slides and demonstrations can be set up easily; panel discussions and departmental meetings can be conducted and many other departmental activities can be expanded for better local coverage.

For the first time since the Fish and Game Department was created in 1901, field personnel will have a place to conduct inter-departmental meetings without depending upon other organizations to furnish a meeting place.

This spring, 20 deputy game wardens from all over the state will attend the "In-Service Training" school at Montana State College in Bozeman, utilizing the sleeping facilities of the headquarters building and its office space as a central study and meeting place.

A central headquarters will prove a real convenience to hunters and fishermen as well as landowners and others as they can contact Department employees easily to discuss problems and business matters.

MONTANA FISH AND GAME DEPARTMENT

Official



Publication

State of Montana

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Our Cover - from an original drawing by Vern Craig

Mink are best known for their beautiful fur and short tempers. They are one of the nation's most important fur bearers and are found in relatively large numbers throughout Montana. Mink have long been one of the mainstays of trappers' income and last year, their fine, dark pelts brought nearly \$120,000 on the Montana fur market.

While not as specialized as other members of the weasel family, mink are easily the most versatile. They are nearly as much at home in water as the otter, can climb trees if necessary like the marten, and can take care of themselves on the ground by running, burrowing or fighting like the weasel or badger.

Although semi-aquatic by nature, mink diets are widely varied. They eat some fish, frogs, crayfish, mollusks and other water-dwellers as well as small rodents, eggs and sometimes reptiles.

Montana Wildlife

Vol. V

Marjorie Mitchell, Editor

No. 1

Vernon Craig, Artist

TABLE OF CONTENTS

District Headquarters	Inside Front Cover
Our Cover	1
Destruction by Default	3
Fish and Game Legislation	4
Montana Sportsmen's Projects	6
Honkers' Winter Haunt	8
Where Is Montana's Water Going?	11
Those Crazy Mountain Goats	15
Operation Cleanup	18
Land Acquisition in Game Management	19
The Rainbow's Country Cousin	24

Winter Issue — 1955

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EDITORIAL:

DESTRUCTION BY DEFAULT

Unfortunately, it usually takes a real crisis to get public opinion aroused over any type of humanitarian movement. This is true whether the response is directed toward crime in the city, corruption in government or dwindling natural resources.

When things are going well, or moderately well, most people prefer to ride along rather than investigate to see if conditions are the very best they could be.

This passiveness exists in Montana with reference to habitat destruction for fish and game. There is at present an abundance of game and it is not too difficult to catch a mess of fish—so everyone is happy. That is nearly everyone. Those that aren't happy gripe about relatively unimportant things like closing a few acres to hunting, shooting doe deer, size limits on fish and other items of limited importance.

Actually, deep concern should be expressed about some of the things that are happening to the wildlife habitat in this state and the reason nothing much is being done is because the destruction is so gradual.

A mile of stream diverted in one area, fifty miles of stream changed forever to a lake by a dam, a few more miles destroyed for fish life by pollution in another or a section dried up through irrigation—individually, the loss seems insignificant.

BUT ADD THEM UP. The loss to fish production is staggering.

Each drained marsh lowers forever the number of ducks and fur bearers that could be produced unless a substitute habitat is constructed.

Each acre of plowed rangeland reduces the number of native sharptailed grouse that the area can produce.

True, only the dreamers would say "stop" to the progress of civilization but any realistic citizen can see many ways that civilization can go forward without marking "The End" to wildlife.

So, why not get a little more concerned about pollution, indiscriminate and ungoverned destruction of streams, clear cut logging and other wasteful and unnecessary practices. In the long range view of things, these are the really important matters.



The 11-member Senate Fish and Game Committee is headed by Sen. Don Valiton (R-Powell), seated at the far end of the table. Other senators on this committee include (left to right) Charles A. Bovey (D-Cascade), Carl Lindquist (R-Daniels), Charles L. Schofield (R-Powder River), Valiton, Miss Darlene Rogers, secretary, Walter G. Sagunsky (R-Madison), George W. Wilson (D-Toole), and LeRoy H. Anderson (D-Pondera). Senators J. S. Brenner (R-Beaverhead), William R. Mackay (R-Carbon), Lloyd I. Wallace (R-Lake) and Paul R. Rice (D-Teton) were in other committee meetings at the time this picture was taken. Chairman Valiton and Miss Rogers (inset) look over amendment recommendations for consideration by the legislative assembly.

Fish and Game Legislation

Of vital interest to all Montana sportsmen is the action of the 34th Legislative Assembly upon Fish and Game matters. Many of the recommendations submitted to the current 1955 legislature were compiled by the Recodification Committee after a two-year study to modernize Fish and Game Codes to fit current needs. Other recommendations and the actual introduction of the bills were made for the most part by members of the Fish and Game Committees of the House and the Senate.

At the close of the 30th legislative day, February 1, which was the deadline for introduction of any bill other than appropriation measures, a total of 19 bills pertaining to fish and game matters had been introduced in the Senate, 16 in the House, one House Joint Memorial and one House Joint Resolution.

Because the status of many of these bills changes from day to day, no attempt is made here to give their final outcome. Briefly, the measures affecting fish and game were:

IN THE SENATE

S. B. 41—Gives Commission power to issue special licenses, bow and arrow deer seasons and declare areas where shotguns only may be used to hunt deer.

S. B. 42—Authorizes game wardens to issue bail bond and summons for violations.

S. B. 43—Authorizes game wardens to issue Certificates of Sale and place expiration date when confiscated fish and game must be sold.

S. B. 95—Provides that rifles may not be used to hunt upland game birds unless authorized by the Commission. Regulates use of shotgun to kill deer.

S. B. 102—Relating to possession, transporting, sale or purchase of fish, game or fur-bearing animals.

S. B. 121—Consolidates in one section of the law all provisions regarding waste of fish or game.

S. B. 122—Fixes penalty clause to statute prohibiting alteration or transfer of fish and game licenses.

S. B. 123—Relating to adoption of migratory bird regulations and provides penalty for violation of migratory bird regulations.

S. B. 124—Regarding employment and removal of employees of the Fish and Game Department.

S. B. 125—Relating to use of explosives in taking fish.

S. B. 143—General license bill which provides for \$3.00 big game license fee.

S. B. 144—Removes fee on antelope license.

S. B. 146—Relating to qualifications and performance of guides and outfitters.

S. B. 153—Relating to appointment of co-operators as special Fish and Game wardens.

S. B. 154—Provides that residents of the state must procure a Shipping License to take fish or game out of the state by personal automobile.

S. B. 182—New legislation regarding carelessness or recklessness while hunting and penalty for violation.

S. B. 185—Consolidates penalty clause in one section for violation of regulations of Commission and Fish and Game statutes.

S. B. 186—General repeal clause to repeal outdated and duplicate statutes in Fish and Game Codes.

S. B. 202—(General License Bill) provides for \$100 non-residence big game license to include bird hunting and privilege to hunt antelope.

IN THE HOUSE

H. B. 47—Changes name of State Fish and Game Warden to "Director."

H. B. 50—Prohibits political activity of all Fish and Game employees.

H. B. 93—General license bill provides for \$3.00 resident big game license.

H. B. 94—Provides for special seasons and authorizes Commission to issue special licenses.

H. B. 95—Deletes \$5.00 special antelope fee.

H. B. 166—General license bill provides for \$1.00 fishing license for persons over 65.

H. B. 181—Repeals federal aid land acquisition statutes.

H. B. 183—Provides for \$20.00 non-resident deer license and \$20.00 non-resident antelope license.

H. B. 209—Sets up bounty fees (\$60.00 for mountain lion, \$5.00 for coyote, \$5.00 for bobcat—\$40,000 per year limitation).

H. B. 233—Distributes 50 percent of Fish and Game funds to Commissioner districts.

H. B. 234—Restricts spending of funds by Commission except as provided in H. B. 233.

H. B. 274—General license bill provides for \$50.00 non-resident big game license for one animal, either an elk or deer. Additional deer or elk for \$25.00.

H. B. 278—Authorizes destroying beaver on irrigation ditches.

H. B. 348—Provides for appointment and qualifications of Conservation Officers.

H. B. 349—Fish and Game Director may set up positions and organization to accomplish work of Department.

H. B. 409—Distributes one-half of Fish and Game fund to General Fund.

House Joint Resolution No. 3—Requesting the Fish and Game Commission to study the Colorado laws relative to state liability for damage done by wild animals.

House Joint Memorial No. 12—Requesting extension of Bob Marshall Wilderness Area.

Robert A. Durkee (D-Hill), seated at extreme right, heads the 19-member Fish and Game Committee in the House. This committee includes (from left to right, seated) S. O. Mysee, Jr. (R-Rosebud), R. J. Phillips (R-Fergus), A. N. Jensen (D-Mineral), R. A. Grant (D-Custer), Thomas A. Mangan (D-Missoula), Fred Wetzstein (R-Ravalli), and William J. Nelson (D-Golden Valley) at Durkee's right. Standing are Ory J. Armstrong (R-Flathead), James A. Wood, Jr. (D-Chouteau) and Archie Wilson (R-Treasure). Committee members absent because of other committee meetings include Arnold Rieder (D-Jefferson), Paul Ringling (D-Meagher), Earl E. Clark (D-Musselshell), A. L. McInnis (D-Judith Basin), Gene A. Picotte (D-Lewis and Clark), George E. Gleed (R-Beaverhead), C. E. Walton (R-Park) and John H. Pierce (R-Yellowstone). Chairman Durkee and his secretary, Mrs. Jane Carlson (inset) check over proposed legislation.



SPORTSMEN'S SHOW

Sponsored By

Valley Sportsmen's Association

Information Booths—

State Game Wardens

Fish and Wildlife

Conservationists

Gunsmiths

Valley Sportsmen

Exhibits—

Firearms Collection

Reel Collection

Rifleman Display

Dogs and Handling



Montana Sportsmen's Projects

(TENTH IN A SERIES)

Education, entertainment and good fellowship are combined in the annual Sportsmen's Show sponsored in Glasgow by the Valley County Sportsmen's Association. Now going into its third year, the production

is an annual project of the Club which has complete civic support.

The primary objectives are to demonstrate new or old reliable game management activities and to provide helpful hints to outdoor people.

All of the elements of a big community get-together are combined to make the "Sportsmen's Show" a worthwhile and enjoyable club program.

Valley County sportsmen with a hard working committee headed by Dr. Richard A. Weber and Dr. Carl Ogrinc initiated the first Montana show in 1953. Over 3,000 outdoor-minded folks of all ages attended the first event and a comparable number enjoyed the 1954 showing in spite of cold, snowy weather.

Typical of the program was last year's show which opened on a Saturday afternoon. Visitors had the opportunity to examine the many booths and demonstrations prepared by conservation agencies, sporting goods dealers, hardware stores and ammunition manufacturers. Barbecued sandwiches and soft drinks were available at all times.

In the evening, a "floor show" type of program included demonstrations of first aid in the field, fly cast-

ing, spinning, bird dog handling, archery, beaver skinning, fish filleting, deer dressing and other activities of interest to sportsmen.

At the booth displays, employees of the various businesses and conservation agencies remained to answer questions, distribute literature and demonstrate exhibits to the visiting public.

To finance the show which had no admission charge, a nominal fee was assessed for commercial display space.

As an idea for worthwhile club projects, the Sportsmen's Show rates high. It provides an excellent medium for exchange of ideas and facts in an atmosphere of entertainment.

Sportsmen, businessmen and the entire community have a real opportunity to work together on such a project in the furtherance of the use, enjoyment and management of the state's important and valuable wildlife resources.



Deputy Game Warden John R. Cook demonstrated fly-tying (left) and other Fish and Game Department personnel showed correct methods of deer dressing, filleting fish, skinning beaver and other outdoor activities of interest to sportsmen.



Honkers' Winter Haunt

By Mary B. Geis — Student Fellow

It is now late winter and the Flathead Valley goose hunter has put away his favorite shotgun until next season. Except for some bragging about the honkers he bagged, or griping about his failure to bag any, the average goose hunter will think little more about geese until April when the sound of geese migrating northward may cause him to remark that the honkers are back and spring must be just around the corner.

Real concern for the goose population will not overtake the average hunter until the approach of another shooting season when he begins to scout the honker's habits, speculate on their relative abundance and wonder whether better management might not bring about better hunting for him and his fellow hunters.

To those responsible for waterfowl management, the goose problem cannot be a seasonal concern. In order to bring about better goose hunting in the Flathead Valley, the waterfowl biologist must learn how many geese breed in the area, how many young are produced each year, how many of the locally reared geese are being killed during the hunting season and whether the hunting season harvest of local geese is adequate.

Acquiring such information is a year-round job for a team of researchers.

The Flathead Valley was chosen as a suitable area to carry on such an intensive study of Canada geese because of its popularity as a goose hunting area and because it was known that there was a sizeable population of geese breeding in the area.

The Montana Fish and Game Department and the Montana Cooperative Wildlife Research Unit began an intensive study in the winter of 1953.

It will be continued as a cooperative project and eventually a rather complete picture of the Flathead Valley goose population will be assembled.

It will surprise many goose hunters to learn that even now, in mid-winter the geese are preparing for the 1955 breeding season. Courtship and pairing are already underway, and during January a few mated pairs could be seen on the nesting islands in Flathead Lake.

By late February, many pairs will be defending a nesting territory and scooping out nesting hollows, and by mid-March, some geese will be laying and incubating their eggs.

The first young will hatch about the middle of April, and by July, all the goslings will be

Native Flathead geese, live-trapped for leg banding. Leg bands aid in identification of geese in the hunter's bag to show migration, nesting and survival trends.



flying and barely distinguishable from adult geese.

Because of the early nesting season, census of the breeding population and studies of nesting habits and nesting success had to begin in early March. When weather permitted, the nesting islands in Flathead Lake were visited once every two or three weeks during the nesting season.

Visits were confined to warm days when there was no danger of eggs becoming chilled, and were kept as short as possible in order not to keep the incubating geese away from their nests for more than an hour or two at a time. On each visit, an island was thoroughly searched, and every nest found was marked, located on a map, and all information about its condition recorded.

At the end of the season a complete history of each nest was compiled, and from these summaries, it was possible to figure the total number of nests, the type of nesting habitat preferred, the number of eggs laid, the number of nests that hatched successfully, and the total number of young that hatched in the area.

Nesting studies were also made on the Flathead River between Kerr Dam and Paradise. Trips were made by boat down the fifty mile stretch of river three or four times during the nesting season. There are no nesting geese on Pablo Reservoir, but a few geese nest on Ninepipe Reservoir and these were also included in the nesting survey. The nesting studies, combined with aerial censuses, showed that about 200 pairs of geese nest in the Flathead Valley and that an additional 400 to 600 one and two year old geese that are not yet of breeding age remain in the valley during the nesting season.

Thus, because most geese do not breed until they are two or three years old, less than half of the goose population nests each year. Over 90 percent of the geese nest on islands in Flathead Lake or in the Flathead River. A few nest on isolated peninsulas, cliffs, in old heron or osprey nests in trees, or on muskrat houses in marshy areas.

Each nesting goose lays usually five or six eggs, though she may lay as few as two or



Nesting geese occasionally move into abandoned osprey nests which offer excellent protection for hatching and brood.

as many as ten. The goose incubates her eggs for 28 days and about 50 to 75 percent of nesting geese hatch at least some of their eggs successfully.

Some geese desert their nests because of crowded conditions, disturbance by predators or humans, or unknown factors. Other nests may be destroyed by crows or ravens or more rarely by minks or skunks. Some eggs get chilled during cold snaps and never hatch, and some nests on the river are flooded when spring floodwaters are released.

In spite of all these adverse factors, 200 nesting pairs produced about 800 goslings in 1953 which was an exceptionally good year, and about 600 young were hatched in 1954 when weather conditions were less favorable.



Ground nests are more common but less satisfactory for they are subject to many types of predators.

Within two days after hatching, goslings leave the nesting islands and travel to shallow marshy areas of the lake or river where there is a plentiful food supply of aquatic plants and pasture grass.

Rainbow Goslings

In order to find out how far goslings traveled from the nesting islands and which areas are important for rearing broods, some eggs were injected with harmless vegetable dyes a few days before hatching.

Goslings emerged with colored down which would identify the islands from which they came, and many residents around Polson Bay were startled to see brilliant red, blue or green goslings feeding along the shore.

Observations of the rainbow tinted goslings showed that many broods traveled a distance of eight to twelve miles to reach the brood-rearing grounds.

Further studies were made on the brood-rearing grounds during May and June to determine how many of the goslings survived until they could fly and furnish targets for fall goose hunters. Comparison of the number of young hatched with number of young still surviving in July showed that from fifteen to twenty percent of the goslings disappeared during the brood season.

Most of these were probably victims of such predators as mink, coyotes and dogs. Low water levels on the lake during the brood season made it difficult for goslings to reach the safety of open water.

In 1953, about 625 goslings reached the age that they could be harvested by hunters, and in 1954, there were about 500 goslings.

In order to be able to identify local geese that were bagged by hunters it was desirable to mark as many of these geese as possible with metal leg bands.

During late June and early in July, before the young could fly and while the adults were moulting their wing feathers and also flightless, flocks of geese were rounded up with boats and herded into wire traps on the shore where researchers aged, sexed and banded them. In 1953, about 200 geese were banded in this manner and in 1954, over 400 more were banded.

During the hunting season investigators were in the field constantly, observing geese and talking to hunters. From information obtained in this way it was calculated that about 365 geese were killed in the Flathead in the fall of 1953 and that an additional 120 geese were fatally crippled.

Of the 200 geese banded in July, over 40, or about twenty percent, were shot and the bands returned by hunters. This indicated that about twenty percent of the 1,400 geese that were present in the study area in July when the geese were banded were killed during the 1953 hunting season.

Thus, about 280 of the 365 geese bagged in the Flathead in 1953 were locally reared geese. (This is twenty percent of 1,400, the local goose population.)

These figures show how important it is to future goose hunting in the Flathead Valley to protect the nesting and feeding grounds and through management practices to increase the local breeding population.

A few more years of study will clarify the situation, but in the meantime, present information points the way to some management practices which will protect the breeding population and increase the number of local geese available to hunters each fall.

The Fish and Game Department can, for instance, protect some of the critical nesting islands and brood-rearing grounds from the encroachment of civilization which will make them unsuitable for wild goose habitat.

Artificial Nesting Sites

Experiments are being made in providing artificial nesting sites in the form of nesting platforms similar to the old osprey nests which geese frequently use.

Means of reducing the loss of eggs and goslings through predation are being considered and the possibility of reducing loss of nests by flooding and of maintaining more favorable water levels on the brood-rearing grounds are being investigated.

It is hoped that eventually some of the hunting pressure can be shifted from local to migratory geese and that the harvest of local geese can be stabilized at a level consistent with number of surplus geese produced each year.



Where Is Montana's Water Going?

Montana is favored with thousands of miles of good fishing streams. From their headwaters, they tumble down mountains to become meandering streams and rivers. In these slow-moving waterways are found some of the state's best fisheries for here trout and other cold water species can find plenty of water of the proper temperature and chemical composition, deep pools for resting or hiding, riffles, undercut banks and brush cover which are invaluable food sources, and all the other requirements for proper production.

But Montana is steadily losing its best waters.



Modern equipment has its place . . . but is that place in the middle of the stream?

. . . When the results are a denuded flume like this?



This stream, under normal conditions and if left this way the year-around, would maintain an excellent fishery.

. . . but when its flow is reduced to this during the irrigation season, its value as a fishery naturally drops.





Other flumes are the by-product of today's motor-ing public which demands fine straight roads . . .

. . . and such highways are possible while still retain-ing some semblance of good fish habitat through rock placement to break swift currents, creating pools and cover.



. . . therefore, the stream's value for a fishery is not left in question. Only on a year-round basis is the zero value of this stream obvious.

. . . but while its value for fishing is h e r e question-able, the remaining water is still too valuable to be left flowing . . .

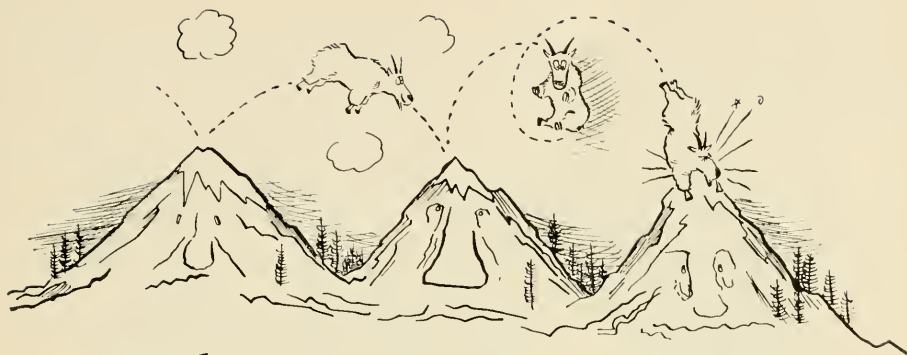


Yes, Montana's best waters are gradually disappearing.

Pollution is taking its toll . . . whole channels are being changed by the road builders, through agricultural practices and flood control . . . streams are being completely de-watered for irrigation purposes . . . or flooded by impoundments . . . their vital cover is being destroyed through brush clearing for cultivation, grazing or logging.

As long as Montana can preserve its aquatic habitat, the state will enjoy excellent fishing. When the habitat is gone, there will be no more fishing . . .





Those "CRAZY" Mountain Goats!

by

Joe E. Gaab, Big Game Biologist

If you can't bring the mountains to the goats, then bring the goats to the mountains—at least that was the theory of Fish and Game Department employees a few years back.

However, only the optimistic could hope to catch any number of these residents of the rocky crags. And of those who visualized such a fantastic dream, not even the most optimistic dared hope for the outstanding success of this revolutionary operation.

Yet in 12 years, a little band of goats freed in the mountains north of Big Timber increased so rapidly that they could be hunted on a permit basis. Now, there is considerable

evidence that even heavier hunting is desirable.

This project started as a dream of Fish and Game personnel and a rancher named Barney Brannin. In Brannin's back yard lay thousands of acres of tumbled, jagged rocks known as the Crazy Mountains. This isolated range with peaks reaching over 11,000 feet had all the requirements of good mountain goat habitat—but no goats.

Department fieldmen went to work, and Bob Cooney, now director of the Wildlife Restoration Division, was given the job of capturing the goats. After unsuccessfully trying to capture kid goats in nets, the crew con-



In the early stages of transplanting mountain goats, the animals were carried by pack horses from their original habitat to trucks. This tedious method has since been replaced by speedier means which include the use of rubber boats and airplanes.

cluded that catching goats on foot was a foolhardy task.

They then devised a trap which took advantage of the goats' natural craving for salt and other minerals. Crude corral-type traps were constructed in the back country of known mountain goat range in the Sun River area.

Into these traps, the goats were enticed with block salt. It worked. Goats were captured and packed down tortuous mountain trails to pickup trucks and then driven to Sweet Grass Creek in the Crazies. Twenty-one goats were captured and released in this manner between April, 1941, and April, 1943.

Apparently the Crazy Mountains had everything needed for good habitat because soon each canyon and peak had little groups of goats. By 1951, the species was known to occupy most of the region believed suitable and department personnel began to consider the herd as a possible site for trapping or hunting.

However, a detailed census was required and after experimenting with counts from the ground, it was concluded that the airplane was the logical means of doing the job.

Treacherous canyons, down drafts and high peaks all contributed to make this a dangerous, though effective goat censusing method. By fol-

lowing careful flight plans, and working each canyon completely at varying elevations, a tally was completed. When added up, 278 Rocky Mountain goats had been counted. Even more startling was the adult-kid ratio which showed 38 percent of the herd were kids.

From studies made on the ground, another remarkable fact was observed. Whereas most of the producing females in old, established goat herds were known to normally have only single kids, this newly established herd was producing many twins and even triplets.

This phenomenon has also been observed in other species such as deer where conditions are just right, food supplies are good and other factors are favorable to increased reproduction rates, the number of offspring often exceeds the number normally expected.

To the game manager, this indicates an obvious and necessary move—hunt the herd while it is increasing and prevent stagnation found when the population comes into balance with its environment.

Of course, hunting requires some control since the herd in the Crazy Mountains would not support unlimited hunting. With the permit system, a definite number of goats can be taken each year without jeopardizing the basic breeding herd. Equally important is the biological stimulus resulting from keeping the herd producing at its peak.

In 1953, thirty permits were issued and in 1954, fifty permits were made available. Hunter success has been high in spite of the difficulty of mountain goat hunting.

This herd, then, represents a real accomplishment in game management since it is producing hunting to more hunters in an area where goat hunting was unknown.

If managed properly by sufficient hunting, this herd will continue to produce hunting of that fine trophy animal—the Rocky Mountain goat.

Object of all wildlife restoration activities is to provide more and better hunting for sportsmen. The fine trophy below was taken from the transplanted Crazy Mountain goat herd.



OPERATION CLEANUP

A blanket of clean, white snow is temporarily covering the unsightly trash left by careless campers, fishermen and tourists along Montana's highways and recreation areas.

But spring thaws will soon reveal the rusting cans, broken bottles and other garbage of the "Litter Bugs."

It is not enough for these "Litter Bugs" to leave an ugly mess . . . their thoughtlessness often results in No Hunting, No Fishing and No Trespassing signs.



Anaconda Boy Scouts and Conservation Club members, sponsored by the Anaconda Sportsmen's Association, decided last summer to do something about the cluttered shoreline of Georgetown Lake. The lake is a favorite vacation spot in Montana, located within easy driving distance of some 100,000 people who use it steadily the year around. Along only a very small portion of the lake, scouts picked up nearly 8,000 discarded bottles and beer cans.



In addition to policing the area in the initial cleanup, the Anaconda Sportsmen's Association has placed garbage cans along the shore and in congested areas and provides a truck which will collect the refuse weekly. Sanitary facilities were provided by the Montana Fish and Game Department and the sportsmen.



... "Operation Cleanup" demonstrates a method which can be adopted and duplicated in many other areas of Montana.

It is unfortunate only in that children have to clean up the debris of their elders . . . or that a few conscientious adults have to clear up the litter of others.



Land Acquisition In Game Management

BY BOB COONEY—Director, Wildlife Restoration

A few years ago the Sun River elk herd was in serious trouble. Seventeen years of costly herding had acted only as a temporary stop-gap to the real problem—a lack of winter range. A heavy concentration of game had been formed during the winters by pushing elk back from the foothills. Deep snows at higher elevations prevented them from going far back into the mountains. Forage in this narrow belt was becoming seriously depleted. Even with all of the herding effort, elk were breaking out during storm periods to forage on private pastures. This situation could not have continued much longer. A drastic cut in herd numbers would be unavoidable.

Then the elk got a break. A tract of grazing land became available

in the foothills and prairie edge. In 1948 it was purchased by the Fish and Game Commission. With included state and public domain lands, nearly twenty thousand acres thus became available to the elk. It was ideally located directly at the end of historic migration trails. Even during periods of severe storms forage was readily available for approximately three thousand elk. Heavy use in the back country ceased. Conflict with neighboring ranches was virtually eliminated. Winter losses became negligible. The most important and often lacking goal in the management of an elk herd—adequate winter range—had been achieved.

This represented an excellent example of how a major game problem was solved by the purchase of a

THE SUN RIVER ELK HERD—One of the nation's best examples of proper game management.





critical tract of winter range. Acquisition has become an important aspect of present day game management. Although small and widely scattered in the over-all picture of lands within the state, these tracts are of vital importance. They have been carefully selected on the basis of need. Each has been studied in the light of local economy to make sure that wildlife development would represent the most important usage of these lands.

In order that the tax base would not be disturbed the Montana Legislature has made it possible for the Fish and Game Commission to pay annually to counties, in which such lands are located, an equitable amount in lieu of taxes.

During the late 40's other tracts of big game winter range, in addition

to the Sun River, were purchased. However, during the last several years emphasis has shifted to obtaining key marsh land areas for the production of waterfowl. These will also assure public hunting in particularly important areas during the years to come.

Wildlife Restoration funds, made available to the states from an excise tax on sporting arms and ammunition, have been used to supplement Fish and Game Department monies in making this program possible. The lands purchased, however, have become the exclusive property of the Montana Fish and Game Commission and are managed by them. The following summary lists the tracts purchased to date and briefly describes their primary values in Montana's wildlife development program:

Big Game Winter Ranges

SUN RIVER GAME RANGE—LEWIS AND CLARK COUNTY

This represents a tract of 11,750 acres of deeded land, plus included state and public domain lands to make the area nearly 20,000 acres. This area was obtained in 1948 and has represented a vitally needed winter big game range. It has been used each winter since by a majority of the elk from the Sun River herd (approximately three thousand head).

BLACKFOOT-CLEARWATER GAME RANGE—MISSOULA AND POWELL COUNTIES

This is a tract of 10,936 acres of land lying near the confluence of the Blackfoot and Clearwater Rivers. It was obtained in the fall of 1948. With adjacent leased lands this area represents important winter range for elk and deer drifting down from the higher summer ranges of the Blackfoot and Clearwater drainages as well as from the Upper South Fork of the Flathead. During the period that this range has been available to big game, a particular effort has been made to draw elk off surrounding private lands, thus helping to alleviate a serious problem of big game conflict with agricultural interests.

JUDITH GAME RANGE—JUDITH BASIN COUNTY

Lands obtained in 1952 were added to a tract purchased earlier, thus creating a winter range for big game of 4,137 acres. This area lies at the edge of the forest near the confluence of the South and Middle Forks of the Judith River. It represents a natural wintering ground for the majority of elk from the east slope of the Little Belt Range. By holding big game on this state-owned tract it has been possible to materially lessen a serious problem of conflict with private lands that has existed in that area for many years, and thus maintain a larger huntable herd without disrupting local economy.

GALLATIN GAME RANGE—GALLATIN COUNTY

Two areas have been obtained in the Gallatin Canyon in an effort to relieve a very critical shortage of winter elk range. A tract of 6,188 acres, located in the Teepee-Buffalo Horn area just below the Yellowstone Park boundary. The other tract of 440 acres is made up of meadow land range at the mouth of Porcupine Creek midway down the Gallatin Canyon. In addition to vitally needed forage made available the latter purchase has also solved a problem of elk use conflicting with private lands.

MADISON ELK RANGE— MADISON COUNTY

A tract of 1,260 acres was obtained in 1954 by the Montana Fish and Game Commission on Bear Creek on the west slope of the Madison Range. As this land is located directly on the main elk migration route from the Gallatin, it is considered highly important in the management of big game in that area. Forage made available on this tract will tend to hold elk off private lands below. Should additional lands become available at some time in the future to round out a more adequate winter range, this tract would fit in very well with such a program.

BOWSER LAKE AREA—FLATHEAD COUNTY

This tract, consisting of but 199 acres about the edge of Bowser Lake north of Kalispell, is far more important to wintering game than its size would indicate. White-tailed deer in large numbers move into this area late in the fall. Deep snows at higher elevations tend to constrict game use to a relatively small tract of winter range in this area. The development of forage within this section for deer will add much to its value from a game standpoint.

BULL MOUNTAIN RANGE—JEFFERSON COUNTY

This tract of 1,993 acres was purchased in the spring of 1954. It is expected that it will add materially to the critically needed winter range for big game, principally elk, in the Bull Mountain-Whitetail area. In addition, use by elk on this range will lessen the possibility of conflict on surrounding private lands.

Waterfowl Development Areas

FREEZOUT WATERFOWL AREA—TETON COUNTY

The land purchased in this area is located in a strip about the edge of Freezout Lake. It consists of 1,155 acres purchased in 1954, plus approximately 3,000 acres under lease. The lake and these adjoining lands will be developed and improved for the production of waterfowl. In addition the area will represent an important location for public hunting. Waterfowl food crops produced in this area will serve the additional purpose of holding birds off surrounding private lands, thus lessening the possibility of undesirably heavy waterfowl usage.

State ownership has also made it feasible to construct a water control canal connecting the lake with the Teton River. This structure will make it possible to control the water level of the lake which is essential to the maximum development of waterfowl. It will also prevent the flooding of a nearby state highway, railroad, and private lands which has represented a serious threat in the past. This area is comparable to the famous Ogden Bay in Utah in size and waterfowl production possibilities.

NINEPIPE AREA—LAKE COUNTY

During the past year 1,292 acres of land bordering the Ninepipe Waterfowl Refuge have been purchased by the Montana Fish and Game Commission. It is anticipated that these lands will be developed for waterfowl and upland game birds by diking, pothole development and cover and food plantings. Public hunting is an additional and very important consideration in this program.

FLATHEAD LAKE GOOSE ISLANDS—LAKE COUNTY

Two islands in Flathead Lake, one of 30 acres and the other of 24, have been included in this program. Although rather small in size, these timbered rocky islands are of immense importance from a wildlife standpoint. They represent key Canadian goose nesting sites. It has been found that the local goose production depends largely upon their success in finding suitable locations for nesting. These relatively undisturbed islands in Flathead Lake represent the most desirable nesting sites in the entire valley. Should they become occupied the resulting human activity would preclude goose nesting which would in turn seriously deplete the production of this primarily important waterfowl species.

FOX LAKE—RICHLAND COUNTY

The purchase of 682 acres within and about the edge of Fox Lake near Lambert represents a very important step in the restoration of this once highly significant waterfowl area. The improvement of an existing dike, will create a more stable water level. This, coupled with necessary food and cover plantings, as well as fencing, will greatly improve the area for waterfowl. This development work, along with the assurance of ready access, should make this one of the most important waterfowl production and hunting areas in eastern Montana.

LITTLE MUDDY WATERFOWL AREA—CASCADE COUNTY

There has been a purchase of 640 acres made in the Little Muddy waterfowl development area west of Cascade. With the reconstruction of a dike, desirable water levels can be maintained in this area. Its location in relation to waterfowl flyways along the east side of the Rocky Mountains system, gives assurance of heavy waterfowl populations when the development work is completed.

Some additional acquisitions should be carried out in order that this area be completed. Public hunting represents an additional important objective.

MILK RIVER (DODSON) WATERFOWL AREA—PHILLIPS COUNTY

Lands lying about the edge of the Dodson impoundment, amounting to 378 acres, were obtained in order that this region could be further developed for waterfowl and upland game bird production.



Whitefish-- The Rainbow's Country Cousin

by

J. J. Gaffney

Fisheries Biologist

Mountain whitefish are among the most abundant fish in the cold water streams and lakes of Montana. This close relative of the highly esteemed trout is the mainstay of the state's winter fishery and also contributes to the creel of the summer fisherman.

The status of this fish among Montana's anglers is quite variable. Some fishermen consider this fish to be a wandering busybody who frequently shows up to take the Number 16 ginger quill just when a five-pound rainbow is showing some interest in the fly.

Others will take the whitefish with any species of game fish and enjoy catching it.

Its status as a food fish shows similar variation. A few fishermen would not offer a whitefish to a stray cat while others prefer the flesh of this fish to that of trout.

Each angler has a right to his own opinion of the mountain whitefish. However, before he becomes too critical of this fish, he should take a second look at the qualities that are expected of a game fish.

If a game fish is to make a major contribution to the creel, it must be present in numbers that will give reasonable assurance of success-

ful trips. Also, the fish must be capable of putting up a good "scrap" when taken on proper tackle. Although palatability is of secondary importance in a sport fishery, it is also a factor to be considered in evaluating a game fish.

Does the mountain whitefish meet these requirements?

This fish is found in most of the cold water streams and lakes that drain the western half of the state. It is most abundant in the large rivers and the lower portions of primary tributaries but is found less commonly in secondary tributaries and lakes.

It is not uncommon for several fishermen to take limits of whitefish in a few hours from a single hole on such streams as the Missouri, Yellowstone, Jefferson, Madison, Gallatin, Flathead, Bitterroot and Blackfoot rivers. Flathead lake also provides good whitefishing at certain times during the winter.

Records kept by individual fishermen show some catches as high as four fish per hour with catches of one and one-half fish per hour being common on some of these streams.

Trout streams which yield one and one-half fish per



Properly clothed against wintery blasts, fishermen need not abandon this sport when the snow flies and temperatures drop.

hour are considered good fishing streams.

Winter fishing in Montana requires somewhat heavier tackle than that used during the regular season. Ice formation in the guides limits the use of fly rods or spinning rods.

A long cane pole is most satisfactory for winter fishing. It is often necessary to lift a fish over the edge of shelf ice; therefore, the fine tapered leaders used by trout fishermen are not practical during the winter season.

Because of this heavier tackle, some fishermen have a tendency to "horse" their fish and thereby underestimate the fighting ability of the whitefish. During the regular fishing season, these fish are taken in much the same manner as trout are taken.

The whitefish does not make the spectacular jumps or the long runs that a rainbow makes but they will put up a dogged underwater fight when taken on light tackle.

The palatability of any food item is largely a matter of personal preference but that preference may be influenced by a number of factors.

Some fishermen have never eaten whitefish because their friends tell them that these fish are undesirable. A few such people have

been pleasantly surprised when they sampled their first fried whitefish fillet.

In a controlled experiment, six unbiased judges gave desirable ratings to samples of whitefish which were judged on aroma, texture, flavor and tenderness. Removing the skin and the fatty deposit along the backbone removes a flavor that is objectionable to some people.

Smoking is a very popular way of preparing whitefish, especially during the winter season. For a nominal fee, usually ten cents a fish, a fisherman can have his fish smoked at a commercial meat curing plant or by a commercial smoke house operator or he can easily build his own backyard "fish-smoker."

Although the mountain whitefish meets all qualifications of a game fish, it has been little utilized by most Montana fishermen. A recent modification of fishing regulations allows fishermen to take a daily limit of whitefish in addition to a limit of trout and other cold water fish during the open season.

Recent years have shown a growing interest in the mountain whitefish as a game fish and it is hoped that this interest will continue to grow, thereby enabling Montana sportsmen to utilize this resource more fully.

For the rugged fisherman, pursuit of whitefish provides sport not only during the winter and early spring, but can be enjoyed throughout the entire year.



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